

Claims

What is claimed:

1. A method for peer discovery between a first optical node and a second optical
5 node, the method comprising:
 - a) connecting the first optical node and the second optical node with at least two trunks; and
 - b) sending a packet from the first optical node to the second optical node, said packet including an identifier.
- 10 2. The method of claim 1, wherein, in the step of sending, the packet is sent over an in-band control channel.
3. The method of claim 1, wherein, in the step of sending, the packet originates in a
15 management controller in the first optical node.
4. The method of claim 3, wherein, in the step of sending, a trunk manager module on the management controller enables the peer discovery.
- 20 5. The method of claim 1, wherein, in the step of sending, the packet is sent from a port interface card in the first optical node to the second optical node.
6. The method of claim 1, wherein, in the step of sending, the identifier includes at least one of a router identification, a chassis number, a slot number, and a port number.

7. The method of claim 1, wherein, in the step of sending, the packet further includes an optical routing parameter.
- 5 8. The method of claim 7, wherein, in the step of sending, the optical routing parameter includes at least one of a virtual private number associated with at least one of the trunks, a conduit number associated with at least one of the trunks, and an OSPF area identification.
- 10 9. A method for peer discovery between a first optical node and a second optical node, the method comprising:
- a) connecting the first optical node and the second optical node with at least one trunk; and
- b) sending a packet from the first optical node to the second optical node, said
- 15 packet including an identifier, and an optical routing parameter.
10. The method of claim 9, wherein, in the step of sending, the packet is sent over an in-band control channel.
- 20 11. The method of claim 9, wherein, in the step of sending, the packet originates in a management controller in the first optical node.
12. The method of claim 11, wherein, in the step of sending, a trunk manager module on the management controller performs the peer discovery.

13. The method of claim 9, wherein, in the step of sending, the packet is sent from a port interface card in the first optical node to the second optical node.

5 14. The method of claim 9, wherein, in the step of sending, the identifier includes at least one of a router identification, a chassis number, a slot number, and a port number.

15. The method of claim 9, wherein, in the step of sending, the optical routing parameter includes at least one of a virtual private number associated with the at least
10 one trunk, a conduit number associated with the at least one trunk, and an OSPF area identification.

16. A system for peer discovery between a first optical node and a second optical node, the system comprising

- 15 a) a controller in the first optical node;
- b) a line card in the first optical node linked to the controller; and
- c) a trunk manager module on the controller for sending a packet to the second optical node via the line card, said packet including an identifier and an optical routing parameter.

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17. The system of claim 16, wherein the identifier includes at least one of a router identification, a chassis number, a slot number, and a port number.

18. The system of claim 16, wherein the optical routing parameter includes at least one of a virtual private number associated with the at least one trunk, a conduit number associated with the at least one trunk, and an OSPF area identification.

5 19. A method of establishing Internet Protocol (IP) connectivity between a first optical node and a second optical node connected by at least one trunk, the method comprising:

- a) forming a tunnel between a controller in the first optical node and a line card in the first optical node;
- 10 b) sending a packet from the controller to the line card; and
- c) with the use of a forwarding device in the line card, forwarding the packet from the line card to the second optical node over the at least one trunk, thereby establishing a first IP connection between the first optical node and the second optical node to forward IP packets.

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20. The method of claim 19, wherein, in the step of forwarding, the trunk is a synchronous optical network (SONET) trunk.

21. The method of claim 20, further comprising establishing a second IP connection
20 between the first optical node and the second optical node, said second IP connection utilized to forward IP packets if the first IP connection becomes ineligible.